

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5,24-26 and 28-29, drawn to a shaped polymer.

Group II, claim(s) 6,7,12-15,20-22 and 27, drawn to photoexposure based methods of forming a shaped polymer.

Group III, claim(s) 8-11,16-19 and 23, drawn to shaped metal (rods).

2. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Any special technological feature which unites them fails to confer patentability on them as evidenced by the X reference cited in the international search report.

3. A telephone call was made to George Beck on August 5, 2011 to request an oral election to the above restriction requirement, but did not result in an election being made.

4. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of

election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention or species.

Should applicant traverse on the ground that the inventions have unity of invention (37 CFR 1.475(a)), applicant must provide reasons in support thereof. Applicant may submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. Where such evidence or admission is provided by applicant, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained.

Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

7. Applicant's election of group II (claims 6,7,12-15,20-22 and 27) in the reply filed on 09/06/2011 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-5,8-11,16-19,23-26 and 28-29 are withdrawn from prosecution

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6,7 and 27 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Chang et al., "Shape controlled, high fill factor microlens arrays fabricated by a 3d diffuser lithography and plastic replication method", Opt. Exp. Vol. 12(25) pp 6366-6371 (12/2004).

Chang et al., "Shape controlled, high fill factor microlens arrays fabricated by a 3d diffuser lithography and plastic replication method", Opt. Exp. Vol. 12(25) pp 6366-6371 (12/2004) teaches the process of forming a microlens array with respect to the apparatus of figure 1 (page 6368), where a photoresist is coated upon a substrate and exposed through the combination of a diffuser and mask to form elliptical or circular cross section patterns in the resist (pages 6367-6368 and figure 4). The resist is developed to form the patterns which can then be used as molds. The use of overexposure to merge adjacent patterns together is disclosed. (page 6369). When the photoresist mold was heated to 85 degrees C without the PDMS resin, the pattern was distorted. The ability to change the profile by changing the diffuser or the lithographic process parameters is disclosed. The use of an opal glass (Lambertian, see prepub of instant spec at [0043]) or sand blasted glass (Gaussian, see prepub of instant spec at [0043]) diffuser is disclosed in figure 1.

The mode of fabricating the mask (ie laser) does not leave any artifacts, so it is the same as any other mask. Clearly the diffuse light is defocused.

11. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Eda et al. '509.

Eda et al. '509 teaches with respect to figures 3a-3d, the formation of a microlens where the exposure uses a diffuser (62) and mask (60) to form a depression in the resist after development. Figure 2a-d shows the same process forming a protrusion, rather than a depression (16/19-17/14).

12. Claims 6 is rejected under 35 U.S.C. 102(b) as being fully anticipated by Hosada et al. JP 2000-241607.

Hosada et al. JP 2000-241607 (cited by applicant, machine translation provided) teaches with respect to figure 4 the use of a photomask with a pattern resulting in a concave exposure profile due to diffraction of the light [0038-0041].

13. Claims 6,7,12-15,20-22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eda et al. '509, in view of Iguchi JP 02-0061123 and Brown et al. '819.

Iguchi JP 02-0061123 teaches a photoresist master which is applied to a surface, the resist exposed, developed, a Ni stamper electroformed on the surface, separated from the resist and then used to form duplicates (abstract, figures 1,2,6 and 8 and associated text).

Brown et al. '819 teaches coating a substrate with a resist, patterning the resist to create the desired microlens pattern, this resultant patterns may be metallized using sputtering, or vapor deposition or electroplating, the resist removed and the result used to stamp/mold parts [0032-0033].

It would have been obvious to modify the process of Eda et al. '509 by forming a microlens array and forming a metal stamper from this as taught by Iguchi JP 02-0061123 and Brown et al. '819 to enable rapid production of duplicate arrays without resist development or imagewise exposure.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 6,7 and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-26 of U.S. Patent No. 7989154. Although the conflicting claims are not identical, they are not patentably distinct from each other because the all the steps of the instant claims are included with other recited steps in the patent claims.

16. Claims 6,7,12-15,20-22 and 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29,31-37 and 39-44 of copending Application No. 12/098180. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims include the same limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ANGEBRANNDT whose telephone number is (571)272-1378. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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